CONVENTIONAL ENERGY SOURCES. (SHRI KALP NATH RAI): (a) The works on Rammam Hydel Project, Stage-II have been started with effect from 19.4.1977. The project is expected to be commissioned during 1993-94.

(b) The latest estimated cost of the project is Rs. 105.07 crores. An amount of Rs. 73.58 crores has been spent upto September, 1991 on the project works.

(c) The project envisages installation of four units of 12.5 MW each aggregating to 50 MW, with an energy generation of 109.5 Million Units per annum.

Tussle for Indian Market for Solar Photovoltaic Devices

3017. SHRI DHULESHWAR MEENA: Will the Minister of POWER AND NON-CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) whether it is a fact that tussle is on the cards to grab India's nascent and till, recently, protected market for solar photovoltaic devices;

(b) whether the entry of the private company TATA BP Solar is posing a challenge to the Central Electronics Limited which is a sick public sector enterprise;

(c) whether several more private sector companies with foreign collaboration are set to enter the field taking advantage of the liberalised economic policy;

(d) if so, whether the CEL is evolving any major restructuring plan which includes a thrust on exports as well as domestic marketing; and

(d) what is the other manner in which it is gearing up to face competition?

THE MINISTER OF STATE OF THE MINISTRY OF POWER AND NON-CONVENTIONAL ENERGY SOURCES (SHRI KALP NATH RAI): (a) to (e) The Photovoltaic industry entered a commercial phase of operation around 1985 with the following three public sector enterprises being the major manufacturers:

— Central Electronics Limited,
— Bharat Heavy Electricals Limited,
— Rajasthan Electronics & Instruments Ltd.

Central Electronics Limited continues to be the largest photovoltaic manufacturer in the country today with an installed capacity of about 2 Megawatt Peak (MWP) of solar cells and modules per year.

Tata-BP Solar India Ltd., were given a Letter of Intent and approval for foreign collaboration in 1988 for setting up a unit for the manufacture of photovoltaic modules and systems with an annual capacity of 1 MWP. Commercial production from their unit began about two years ago; they are still to reach their licensed capacity. CEL does not consider this to be a challenge to them. There are over 20 other companies, many in the small scale sector which have obtained licences or registrations for photovoltaic manufacture. Most of these companies manufacture only systems for different applications obtaining modules from other manufacturers.

The size of the Indian photovoltaic market has been around one MW per year till recently. There are signs of increase in this market mainly due to an increase in use of photovoltaic systems for commercial applications such as telecommunications. Both CEL and BHEL have drawn up plans to expand their production to meet the growing requirements of the domestic market. Efforts are also being made to secure export orders. At the same time improvements are also being carried out in the technology. CEL is establishing cooperation with a leading research group at the University of New South Wales in Australia for this purpose. Development work in the area of multi-crystalline silicon solar cells is also in progress at CEL.

Only one application (submitted by the West Bengal Electronics Corpn. Ltd.) for foreign collaboration to be set up a photovoltaic manufacturing unit for export purposes has been received by government after the introduction of the new industrial policy.